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cont
- c. a username and password,
 - d. a personal identification number,
 - e. a secret code,
 - f. a biometric,
 - g. a digital certificate for identity purposes,
 - h. a smart card,
 - i. a token,
- E

but excluding authentication based on local domain security services on a client-server network with public-key or Kerberos authentication and key establishment.

74. The method of claim 70 wherein a client side signature device is used to resign the electronic document as a final act of signature intent.

75. The method of claim 70 wherein the unique identifier for the document to be signed includes the message digest of the document.

REMARKS -- General

In a telephone conversation dated August 2, 2001, the examiner stated that former claim 40, now claim 70, had overcome the prior art because it necessitates that signing authority be used for authentication. The Office Action of September 24, 2001 noted that former claims 36 and 50, now combined in new claim 56 and their dependents did not share the feature of former claim 40 and hence the prior art was still applicable to them. The applicant thanks the examiner for pointing out this oversight, which has been corrected. Request is therefore made to reconsider these claims.

The Office Action also noted in paragraph 4 that in a prior submission Applicant had attempted to traverse the taking of official notice without rebutting the official notice itself. Applicant has reviewed MPEP 2144.03 and respectfully reports that Applicant does not find a requirement of rebutting the official notice as a prerequisite to a traverse of official notice, but to the extent that one exists and rebuttal was not expressly and earlier made, wherever Applicant has previously raised a traverse to the taking of official notice, Applicant hereby rebuts each such official notice and once again traverses the taking of official notice, and incorporates by reference all such

prior attempts to traverse official notices in this response to the Office Action dated September 25, 2001, and does not waive any rights with respect to any such traverse previously raised.

The Office Action further noted certain 35 U.S. § 112 rejections with regard to claims 37, 38, and 55. The applicant thanks the examiner for pointing out these drafting defects, which have been corrected. Request is therefore made to reconsider these claims which are examinable.

The Office Action further rejected essentially all of the claims based upon a new prior art reference contained in the patent of Kocher (61887666) under sections 102 and 103(a). The rejections based on Kocher and the other specific matters raised in the OA are dealt with below.

Specification

The applicant has made a number of minor changes to the specification:

Applicant detected a typographical error to a previous correction of the specification and seeks to correct it. This concerns the previous change made on page 7 of the substitute specification, where the quotation marks around the material to be changed inadvertently included an introductory phrase that was not intended to be removed. The requested change rectifies the error.

Applicant has also requested minor changes to the specification (as amended earlier by the substitute specification dated December 28, 2000) for clarity.

The final change on page 10, line 13 is intended to clarify further the difference between the symmetric and asymmetric embodiments contained in the specification.

Section 112 Objections and Rejections

A. General

The amended claims have been renumbered. Former claims 40-49 are now found, with combinations, deletions, and modifications, as claims 70-75. These claims were found to have

section 112 objections that did not render the claims unexamined. Wherever possible, amendments to these claims have retained the prior language. The remainder of the claims, including the independent claims, were rejected under section 112. They have been extensively rewritten to overcome the objections. There are now a total of two independent claims, claim 56 and claim 70, rather than three as in the prior amendment. A number of claims have been consolidated through amendment for clarity and to overcome the section 112 rejections. Former claim 50 has been deleted. Former claim 36 has been amended as claim 56. The remainder of the claims are dependent claims.

B. Specific

In former claim 40, now claim 70, the deficiencies noted in the OA of September 25, 2001, paragraph 11 have been corrected in that the period at the end of line 19 has been removed, and the entire last clause in the second to the last line which includes the indefinite phrase "other methods" has been deleted; after the words "keys" in that line, the comma has been removed and the word "or" inserted in its place for readability; and the period now appears after the word "authorities," all in accordance with the comments of the OA.

Former claim 44 has been combined and made part of new claim 67 and the specific language has been redrafted in the new claim to avoid an indefinite reference under section 112.

Claim 49, now claim 73 has been significantly changed by amendment and the defect noted in the OA has been remedied.

In light of this changes, applicant respectfully requests the examiner to reconsider the rejection of this and the other affected claims, which have also been similarly amended.

The Rejections on the Basis of Kocher under Section 102 Are Overcome

The O.A. dated September 25, 2001 in paragraph 13 rejected claims 40, 41, 43, 45, 47 and 49 (now redrafted claims 70, 71, 72, 73 (combining former claims 45 and 49), and 69) pursuant to section 102 (e) as being anticipated by Kocher (61887660). Applicant respectfully requests

reconsideration of this rejection, as now applicable to the redrafted claims, for the following reasons.

As the Court stated in *Jamesbury Corp. v. Litton Industrial Products Inc.*, 756 F.2d 1556 (Fed. Cir. 03/12/1985),

Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim. *Soundsciber Corp. v. U.S.*, 175 Ct. Cl. 644, 360 F.2d 954, 960, 148 U.S.P.Q. (BNA) 298, 301, 149 U.S.P.Q. (BNA) 640 (1966).

The standard is not met on the basis of Kocher. Kocher describes elements not present in the instant invention: These include: 1. facsimile and other telecopier transmissions (col. 3, line 30-35), which are totally absent from this invention, 2. archiving of documents (col.3, lines 40-45), which is totally absent from this invention, 3. return receipt capabilities (col. 3, lines 40-55), which are totally absent from this invention , 4. use of barcodes to make information on the receipt machine-readable (col. 9, lines 10-15), which is totally absent from this invention 5. a requirement for verification that a DIV be presented to the timestamping authority by a verifying party (col. 8, lines 45-50), which is totally absent from this invention (discussed in more detail below), 6. mandatory transmission to a verifying party of the transmitted images originally received and archived by the timestamp facility in a human readable form(col. 10, lines 55-65), which is totally absent from this invention, 7. timestamping of a fascimile transmission, which is completely absent from this invention, 8. optional use of computers only and general use of facsimile machines (col. 4, lines 5-10), and 9. optional use of scanning and printing devices (col. 4, lines 10-20) which is completely absent from this invention. The elimination of items 1-7 and the differences in items 8-9 establish the physical novelty of the invention over Kocher.

There are also elements in this invention which are missing from Kocher and which independently establish the physical novelty of the present invention. Kocher digitally signs only the timestamps which his invention generates as proof of fascimile transmission, and not the documents being transmitted, while this invention digitally signs the electronic data itself. The electronic signatures of this invention must be cryptographically bound to the signed electronic data, while in Kocher, the time/date indicator on the receipt needs only to be human or machine

readable and not cryptographically bound to the receipt to which it relates (col. 8, lines 35-45). Also, this invention includes document creation methods at a server, such as boilerplate and templates that users fill out, and form input devices for user input, and which result in documents that can include formatting and structural tags to permit display and use by applications that require such tags, for which Kocher does not provide. Again, these differences establish the physical novelty of the invention over Kocher.

With respect to the specific matters raised in paragraph 13 of the OA, Applicant respectfully submits:

1. For reasons stated above, the timestamping archive of Kocher does not correspond to applicant's server system under section 102, nor does the sending facsimile machine of an entity correspond to applicant's client.
2. Kocher limited his claims to the field of telecopier transmissions and devices. See Kocher claims no. 1, 29, 39, and 44. They do not properly anticipate this invention because it does not have this structural limitation. *Rowe v. Dror*, 112 F.3d 473, 42 U.S.P.Q.2d 1550 (Fed. Cir. 04/21/1997).
3. Element 210 of Figure 2 of Kocher is labeled as a step for the encoding of the contents of a facsimile in digital form and not simply the receipt of the facsimile. This invention does not encode documents in digital form. The documents of this invention always exist and are transmitted in digital form. As seen from the discussion that follows, this is a critical difference between Kocher and this invention with regard to signature capabilities. There is no anticipation by Kocher of a2 or a3 or any other clause of Claim 40.
4. Element 220 of Kocher shows the timestamping authority identifying a sender to see if the sender is authorized to use the system. As Kocher explains, this is for the purpose of sending a receipt containing the DIV, which is necessary for verification, and for billing purposes. There is no attempt to identify an individual, as in this invention. In claim 40, the purpose of clause b1 is to determine if a signer has been identified to the system in a way that will enable the system to report to a verifying party later that the signer was the person who is identified by the system as the signer. There is no receipt

function contained in this invention, or billing function associated with the authentication under b1. There is no anticipation.

5. Element 230 of Kocher does provide for a timestamp, but states specifically that it is a timestamp of a **digital representation** of a received document. This potential for conversion of information to digital form upon reception is a critical difference between the inventions. Conversion of the data from facsimile to digital form in Kocher could invalidate any attempt at a cryptographic signature of the received data, even if Kocher had intended it to be signed, because converted data is by necessity different from that which was transmitted by the sender, and the sender has no way to check the veracity of the transformation cryptographically or otherwise prior to application of the digital timestamp. By contrast, in this invention, all the electronic data exists in digital form before and after reception, which avoids conversion and enables the act of signature on behalf of the individual signers. With all due respect, consistently with this analysis, lines 38-45 of column 10 refer to digitally signing the timestamp of a document, not the document itself. The timestamp necessarily includes a cryptographic hash of the post-conversion document data to make sure the proper document is referenced by the timestamp but the document is not independently signed apart from the timestamp in Kocher. The teaching of this invention, by contrast, is that the data is signed without also necessarily signing the identifier of the transaction, which may be included only if a document is generated at the server from user input and templates at the server in the preferred embodiment of the specification, in which case the identifier may optionally be included in the digital envelope of the assembled document per the preferred embodiment. Also Kocher-type documents are never generated from input and templates at the timestamping facility because they do not exist prior to sending and conversion to digital form. Usually the documents are generated directly from paper itself or an image of the paper at the transmission end. The documents cannot be assembled from templates and signed cryptographically as in the preferred embodiment of this specification

of this invention by the Kocher process because they are not transmitted in text-based digital form in Kocher. There is no anticipation.

6. Element 320 of Kocher refers to the verification process. It is labeled in relevant part "Verify digital **timestamp** on document." It does not say "verify the digital signature of the document." This labeling is consistent with the prior analysis. There is no anticipation.
7. Regarding the third full paragraph of paragraph 13 at the top of page 5 of the OA of September 25, 2001, the TTIs in lines 48-52 are shown on the receipt but as Kocher readily states, Column 8, 38-43, the TTI on the receipt needs only to be human- or machine-readable; it does not need to be tamper-resistant and does not need to be cryptographically bound to the contents of the document. This is in contrast to claim 41, where there is no paper receipt generated or sent to the transmitting entity. Identifiers in the preferred embodiment of this invention are cryptographically bound to a template based document through the digital wrapper mechanism before being sent to the signer in the form of digitally signed email. There is no anticipation.
8. Network identifiers in lines 39-40 of column 7 of Kocher are used for submission of a receipt and/or billing purposes upon reception of the document, not for signer identification purposes later during verification, as in this invention. Figure 3 differs from this invention in that in Kocher, the DIV is analyzed for validity before verification proceeds. The DIV (or alternately the TTI) is a way of determining if the requestor in Koch is really authorized to view the document contents before it is retrieved and transmitted to a requestor. Column 8, lines 43-48. There is no analogue in this invention because there is no such concern about privacy of retained documents. No documents are retained at the server, unlike the timestamping archive of Kocher. Clause 1 of claim 43 thus is not anticipated by Element 310 because the document identifier of claim 43 is not intended to protect confidentiality of stored records against unauthorized disclosure. Clause 2 of claim 43 is not anticipated by Element 300 because the signature is intended to be furnished to inquiring parties without limitation in this invention, who are not screened for knowledge of the correct unique document identifier before proceeding to

verification as in Kocher. Unlike Kocher, there is no attempt to limit distribution of an exact unique document identifier because there is no concern about the confidentiality of document contents. Clause 3 is not anticipated by Element 340 of Kocher. The verification statement that is generated in Kocher includes images of the contents of the originally transmitted facsimile transmission, in human readable form. Column 6, lines 50-65. There is no such transmission of human readable contents upon verification in this invention because the contents is not stored. The reference to credit cards in Kocher, Column 7, line 35 is to the credit card number itself that is used for billing charges to a user; in claim 45 of this invention, the credit card reference is to the authorization number of an approval from a credit card gateway facility, which is a transaction approval number indicating acceptance by the credit card company of the payment charge. The difference is important because with a credit card authorization code and not just the credit card number itself, there is a potential audit trail available of records of credit card payments which can provide proof that the credit card charge was later accepted and paid by the credit card holder, which is a form of signature transaction ratification by a user that can establish or bolster authentication. Post-signature ratification of a transaction is lacking from the identifier of Kocher based upon the credit card number alone. While the phrase "electronic process" is not sufficiently identified in paragraph 13 of the OA to locate the precise line of Kocher where it appears, the electronic agent of former claim 47, now amended as claim 69 is a computerized program that is used to sign on behalf of a person or entity not under the direct control of a human being, a concept that is never broached in Kocher. As for the knowledge of a dedicated phone line in Kocher, this is not a secret of the type set forth in claim 49. Any user of the facsimile device usually knows or can easily learn the telephone number of the transmitting device being used, whether the user is authorized to make use of the device or not. Telephone numbers, even dedicated line telephone numbers may also be listed in the records of one or many communications companies, accessible to employees and agents, and perhaps in directory listings available to the general public.

Knowledge of a telephone number is not the type of secret password or code as in this invention; a dedicated phone line in Kocher is for billing and receipt submission purposes, not for proof of identity to support a later verification of the identity of a signer of a document as are the usernames and passwords or secret codes in this invention. There is no anticipation by Kocher.

Accordingly, the applicant respectfully submits that the claims of this invention are not anticipated by Kocher and are patentable over Kocher notwithstanding section 102(e).

Section 103 Rejections

There are a number of section 103 rejections. What follows is a discussion of the law that is applicable to section 103 rejections generally and is therefore useful with regard to each of the specific rejections. In addition, even though claims 40-49 were rejected only on the express basis of section 102, a section 103 response is included as well.

The Court of Appeals for the Federal Circuit in **In re Wright**, 848 F.2d 1216, 6 USPQ 2d 1959 (Fed. Cir 1988) ¶¶ 39-44 has stated:

We repeat the mandate of 35 U.S.C. § 103: it is the invention as a whole that must be considered in obviousness determinations. The invention as a whole embraces the structure, its properties, and the problem it solves. See, e.g., *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985) ("In evaluating obviousness, the hypothetical person of ordinary skill in the pertinent art is presumed to have the 'ability to select and utilize knowledge from other arts reasonably pertinent to [the] particular problem' to which the invention is directed"), quoting *In re Antle*, 58 C.C.P.A. 1382, 444 F.2d 1168, 1171-72, 170 USPQ 285, 287-88 (CCPA 1971); *In re Antonie*, 559 F.2d 618, 619, 195 USPQ 6, 8 (CCPA 1977) ("In delineating the invention as a whole, we look not only to the subject matter which is literally recited in the claim in question . . . but also to those properties of the subject matter which are inherent in the subject matter and are disclosed in the specification") (emphasis in original).

The determination of whether a novel structure is or is not "obvious" requires cognizance of the properties of that structure and the problem which it solves, viewed in light of the teachings of the prior art. See, e.g., *In re Rinehart*, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (CCPA 1976) (the particular problem facing the inventor must be considered in determining obviousness); see also *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984) (it is error to focus "solely on the product created, rather than on the obviousness or nonobviousness of its creation") (quoting *General Motors Corp. v. U.S. Int'l Trade Comm'n*, 69 C.C.P.A. 116, 687 F.2d 476, 483, 215 USPQ 484, 489 (CCPA 1982), cert. denied, 459 U.S. 1105, 74 L. Ed. 2d 953, 103 S. Ct. 729 (1983)).

Thus the question is whether what the inventor did would have been obvious to one of ordinary skill in the art attempting to solve the problem upon which the inventor was working. *Rinehart*, 531 F.2d at 1054, 189 USPQ at 149; see also *In re Benno*, 768 F.2d 1340, 1346, 226 USPQ 683, 687 (Fed. Cir. 1985) ("appellant's problem" and the prior art "present different problems requiring different solutions").

The problem upon which Wright was working was improving the pitch-measuring capability of the level, not the visibility of the bubble. The PTO, having conceded that Wright's structure was unobvious for his intended purpose, erred in holding that this was not relevant. The problem solved by the invention is always relevant. The entirety of a claimed invention, including the combination viewed as a whole, the elements thereof, and the properties and purpose of the invention, must be considered.

Factors including unexpected results, new features, solution of a different problem, novel properties, are all considerations in the determination of obviousness in terms of 35 U.S.C. § 103. When such factors are described in the specification they are weighed in determining, in the first instance, whether the prior art presents a prima facie case of obviousness. See, e.g., *In re Margolis*, 785 F.2d 1029, 1031, 228 USPQ 940, 942 (Fed. Cir. 1986) (comparative data in the specification must be considered in PTO determination of unexpected results, as part of "the entire body of evidence . . . which

must be weighed in the first instance by the PTO.") When such factors are brought out in prosecution before the PTO, they are considered in determining whether a prima facie case, if made based on the prior art, has been rebutted. See, e.g., *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 789 (Fed. Cir. 1984) (rebuttal evidence is considered along with all other evidence of record). In either case, the requisite view of the whole invention mandates consideration of not only its structure but also its properties and the problem solved.

Applicant Wright agrees that he has combined old elements. The Commissioner agrees that Wright has achieved a new combination, and that the result obtained thereby is not suggested in the references. The patentability of such combinations is of ancient authority. See, e.g., *Prouty v. Draper*, 41 U.S. (16 Pet.) 336, 341, 10 L. Ed. 985 (1842); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79-80, 17 L. Ed. 547 (1863); *Gill v. Wells*, 89 U.S. (22 Wall.) 1, 25, 22 L. Ed. 699 (1874); see also H.T. Markey, *Why Not the Statute ?*, 65 J. Pat. Off. Soc'y 331, 333-34 (1983) ("virtually all inventions are 'combinations', and . . . every invention is formed of 'old elements'... . Only God works from nothing. Man must work with old elements").

With regard to rejections based upon matters outside the record, such as taking official notice, the guidelines entitled FORMULATING AND COMMUNICATING REJECTIONS UNDER 35 U.S.C. 103 FOR APPLICATIONS DIRECTED TO COMPUTER-IMPLEMENTED BUSINESS METHOD INVENTIONS adopted pursuant to the Supreme Court case of *Graham v. John Deere* (1966), available online at <http://www.uspto.gov/web/menu/busmethp/busmeth103rej.htm>, state:

Prior art includes all public knowledge demonstrating the level of ordinary skill in the art. The examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being "well known in the art." While an examiner may reject a claim based on common/prior knowledge in the art, this practice is to be applied sparingly. It is always incumbent upon the examiner to find a reference to support a rejection. If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position. When a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically

as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. See 37 CFR 1.104(d)(2). See also MPEP 2144.03.

With these principles in mind, a request is made to reconsider the various Section 103 rejections, each of which is discussed below.

The Rejection of Claims 36 and 50 on the basis of Ford et al (Secure Electronic Commerce) are overcome.

The O.A. in paragraph 20. rejected former claims 36 and 50, now claim 56 which combines elements of the former claims 36 and 50 on the basis of Ford et al. The OA did so on the basis that user input into a template is old and well-known and that while this feature was completely unmentioned by Ford et al., it would have been obvious to a person of ordinary skill for the system of Ford et al.

Respectfully, creation of a document from user input and document templates in the context of Ford et al. is contrary to their teaching. Ford et al. receive **already completed** documents from signers. The prior completion is essential to the workability of the system by Ford et al. because "Prior to signing, the trusted third party must authenticate the **content** and source of the message to confirm that it is signing an authentic **record**, therefore the message from the originator must have authentication and integrity protection." (Emphasis added). Ford et al., p. 332, text accompanying footnote 35, Form PTO Substitute (Supplemental Amended). Documents assembled at the server do not afford such protection because it is not possible to sign and authenticate fields contained in a document alone using the system of Ford et al. They consider such document assembly to be too insecure for their purposes.

The quoted portion makes clear that generation of a document at the server from a merger of user input and templates would violate the basic premises of the system of Ford et al. The teaching of Ford et al. postulate that an invention such as this one is not workable because of this perceived and inflexible security requirements of a PKI. The teaching of this invention is that

the degree of security needed is relative to the type of transaction involved, the risks to be protected against, and the needs of relying parties. See Substitute Specification, p. 3: "[D]igital certificates may be more secure and expensive than the realities of the transaction warrant, while in other settings, the protections may not be sufficient." Not all transactions require the strict elegance of a client-side PKI and the presumed security it provides. This invention is novel, which makes the prior art inapplicable.

Therefore, Applicant respectfully traverses the assertion or implication of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claim.

The Rejection of Claims 39, 52 and 53 on the basis of Ford et al (Secure Electronic Commerce) are overcome.

The O.A. in paragraph 21 rejected former claims 39, 52 and 53, now claims 63 (combining former claims 39 and 53) and 66, on the basis that official notice could be taken that it is old and well known to create symmetric keys on the basis of identifiers and that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use MACs using keys derived from the document to be signed to sign the documents of Ford et al.

With all due respect, Ford et al teach exactly the opposite from the official notice that is asserted. They expressly state on p. 320, Form PTO Substitute (Supplemental Amended) as follows.

"Recall that a MAC is a symmetric cryptographic mechanism – both the originator and recipient of a message share a common key. The originator uses the key to generate the MAC and the recipient uses the same key to verify the MAC. This mechanism can provide authentication and data integrity – the recipient can be confident of who originated the message and that the message was not modified, provided it is known that only the two parties possessed the key. However, a MAC cannot provide non-

repudiation of the origin of a message because it is not adequate *to convince a third party* as to who originated the message – since two parties possessed the key, either one could equally well have originated the message.” (Emphasis original)

Under the circumstances, Applicant respectfully requests the examiner to reconsider the invocation of official notice. In this invention, only one party, which is the server, ever possesses the symmetric key, both for signing and verifying a signature. Since only one party (the server) and never two parties possesses the symmetric key, the system does not suffer from the same infirmities with regard to non-repudiation as a multiparty key system envisioned by Ford et al.

Ford et al teach away from this invention, and do not suggest it.

The applicant respectfully traverses the assertion of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claims.

The Rejection of Claims 36 and 37 on the basis of Ford et al (Secure Electronic Commerce) is overcome.

The OA states in paragraph 3 that it is irrelevant that former claims 36 and 37, now redrafted claims 56 and 61 do not refer to credit card transactions because credit card templates are not excluded from the claims. The claims have been redrafted to make clear the credit card information that is referenced in them is not the card information inputted by the online user into templates but instead refers to the credit card authorization number of the online credit card paying service, which is a different number and is never inputted by the online user into a template. This authorization number is only received from a credit card gateway as proof of transaction consummation. The difference is important because the authorization code, which is different from the credit card number, provides a potential audit trail of transaction approval through payment of the credit card charge, which can establish or bolster through transaction ratification by the card holder the authentication of a signer.

The applicant respectfully traverses any prior assertion of official notice and other information outside of the record and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claims.

The Rejection of Claim 42 on the basis of Kocher is overcome.

The OA in paragraph 15 rejects former claim 42, now claim 73 on the basis of Kocher in that although Kocher does not authenticate clients using biometric identifiers, “Kocher shows a timestamping archival facility that signs and authenticates documents.” Invoking official notice that biometrics authenticate entities, the conclusion is reached that it would have been obvious that to use biometrics to identify the client in Kocher to ensure uniqueness.

First, it is not accurate to state that “Kocher shows a facility that signs and authenticates documents”. Kocher does not teach signing of documents. Kocher’s invention authenticates transmission of facsimile documents to an archival facility by signing a **timestamp** of when they are received, and providing verifications of timestamps. See e.g., Col. 7, lines 45-50 (Digital data are cryptographically timestamped); Col. 10, lines 35-40 (The digital **timestamp** stored with the data is cryptographically verified). The purposes of Kocher’s use of an encryption algorithm is entirely different from this invention. Kocher signs a record of the time a facsimile document is received by an archive as later proof it was transmitted and received at the timestamp date and time and how it is currently stored in the archive. Only an avowal of the archive that the document has not been altered since it was received exists as proof of non-alteration. No cryptography is employed for this latter purpose because the document itself is not signed by any user. Col. 8, lines 37-43; Col. 11, lines 13-18. No attempt is made by Kocher to identify or report an individual as the author of the contents of the archived facsimile transmission, unlike the signers of this invention. In this invention, an electronic document is signed electronically which cryptographically identifies the signer and detects if changes have been made to the document in the interim. Kocher does not suggest this invention by using cryptography for different, timestamping purposes.

Furthermore, it is not accurate to say as does the OA that biometrics authenticate entities. Biometrics authenticate human beings as individuals. An entity that is an organization has no biometric identifier because it is not a living being.

Kocher does not teach this invention because nothing like the signature of this invention is contemplated. Kocher states (Col. 11, lines 15-20) that the archival facility of his invention, unlike the server computer of this invention, gives no assurance to the world that a transmitted document was not forged or tampered with.

Kocher does not authenticate users for the same purpose as this invention. This invention authenticates users in order to be able to verify whether a signature belongs to that user. Where such authentication is not required by relying parties, as in private email correspondence that has little or no commercial or official value and authentication is unimportant to the parties, users perform self-authentication, as the specification explicitly states (Substitute Specification dated December 28, 2000), p. 5 bottom, to p. 6, l. 7. Such users are allowed to sign without any other authentication at all, in which case only the network address of the signer is recorded as a transaction reference, and no user is refused signature privileges. Kocher authenticates users for purposes of sending a receipt back to them and for billing purposes (Col. 7, lines 20-25.) , and refuses accesses to non-authenticated transmissions, for revenue and receipt purposes. There is no such use set forth in this invention.

Therefore, former claim 42 now claim 73 of this invention is novel over Kocher and other prior art.

The applicant respectfully traverses the assertion of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claim.

The Rejection of Claim 44 on the basis of Kocher is overcome.

Former claim 44 is deleted, although new claim 67 includes voice command as one of a number of commands that can be used to effectuate signatures.

With regard to voice commands, the OA in paragraph 16 rejected former claim 44 on the grounds that although Kocher does not say that client actions are carried out as a result of voice, official notice was taken that it is old and convenient to use voice commands. On the basis of convenience, one skilled in the art could have conceived of voice commands for Kocher.

With all due respect, in re Wright, supra, is determinative. Kocher does not teach signatures of electronic documents or electronic data. He teaches timestamping and facsimile data archiving. Whether one skilled in the art could have employed voice commands to transmit facsimiles to a data archiving service does not suggest the subject matter of this invention. Therefore, former claim 44 now claim 67 of this invention is novel over Kocher and other prior art.

The applicant respectfully traverses the assertion of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claims.

The Rejection of Claim 46 on the basis of Kocher is overcome.

The OA in paragraph 17 rejects former claim 46, now 74 on the basis of Kocher in that "it would have been obvious to a person of ordinary skilled in the art at the time the invention was made for the client to countersign *the document* that had been *signed by the timestamping archive* to show an *added level of agreement*." (Emphasis added).

First, Kocher does not teach the signing of documents by the timestamping archive or agreement between it and users. Kocher's invention authenticates transmission of facsimile

documents to an archival facility by signing a **timestamp** of when they are received. There is no signature of documents or countersignature involved. There is no agreement to be reached between a sender or the archival facility about the time that a transmission was received. A Kocher user cannot countersign the time of receipt of the document because the user has no way of confirming or denying the time as shown on the archival clock device when it was received by the archival facility apart from a report from that facility.

Therefore, former claim 46 now claim 74 of this invention is novel over Kocher and other prior art.

The applicant respectfully traverses the assertion of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claims.

The Rejection of Claim 48 on the basis of Kocher is overcome.

The OA in paragraph 18 rejects former claim 48, now claim 63 on the basis of Kocher in that “Kocher shows a timestamping archival facility that signs and authenticates documents;” Kocher states that any algorithm can be used in the signature; official notice was taken that symmetric keys based on identifiers are well-known, which efficiently assigns keys to entities; and official notice was taken that MAC’s are well-known as essentially signatures using symmetric keys.

First, it is not accurate to state that “Kocher shows a facility that signs and authenticates documents”. Kocher does not teach signing of documents. Kocher’s invention authenticates transmission of facsimile documents to an archival facility by signing a **timestamp** of when they are received, and providing verifications of timestamps. See e.g., Col. 7, lines 45-50 (Digital data are cryptographically timestamped); Col. 10, lines 35-40 (The digital **timestamp** stored with the data is cryptographically verified). The purposes of Kocher’s use of an encryption algorithm is entirely different from this invention. Kocher signs a record of the time a facsimile

document is received by an archive as later proof it was transmitted and received at the timestamp date and time and of how it is currently stored in the archive. Kocher states that only an avowal of the archive that the document has not been altered since it was received exists as proof of non-alteration. No cryptography is employed for this latter purpose. Col. 8, lines 37-43; Col. 11, lines 13-18. No attempt is made by Kocher to identify or report an individual as the author of the contents of the archived facsimile transmission, unlike the signers of this invention. In this invention, an electronic document is signed electronically which cryptographically identifies an authenticated signer and detects if changes have been made to the document in the interim. Kocher does not suggest this invention by using cryptography for different, timestamping purposes.

Kocher does not teach this invention because nothing like the signature of this invention is contemplated. Kocher states (Col. 11, lines 15-20) that the archival facility of his invention, unlike the server computer of this invention, gives no assurance to the world that a transmitted document was not forged or tampered with.

Kocher does not authenticate users for the same purpose as this invention. This invention authenticates users in order to be able to verify whether a signature belongs to that user. Kocher authenticates users for purposes of sending a receipt back to them and for billing purposes (Col. 7, lines 20-25.)

Moreover, use of a symmetric cipher by Kocher to sign a timestamp bears no relationship to the observations contained in the official notice of the OA regarding MACs. No other entity is identified by the signature in Kocher because only the digital archive signs the timestamps and verifies the signature. No other signer is contemplated by Kocher, unlike this invention, which is based upon a plurality of individual signers who use a central server computer to sign.

Therefore, claim 48 of this invention is novel over Kocher and other prior art.

The applicant respectfully traverses the assertion of official notice and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claim.

The Rejection of Claims 36, 39, 50, 51, 52, 53, 54, and Claims 40, 41, 43, 45, 47 and 49 on the basis of Kocher under section 103 are overcome.

Paragraph 19 of the OA rejected claim 36, which has been merged into new claim 56. Using almost identical language and reasoning, the OA rejected former claims 39, 50, 51, 52, 53, 54. The OA also rejected former claims 40, 41, 43, 45, 47 and 49 under section 102. Because the rejections are almost identical, employ similar reasoning and language, and deal with the similar substance, they have been combined for purposes of amendment and response under section 103.

Although the first full paragraph 19 is couched in terms of analysis of anticipation under section 102 and not obviousness under section 103, and the specific claim being discussed is never identified by the examiner by its number, and without identification of the specific multi-clause claim being referenced in the OA (36 or 50), it is uncertain what exactly what is being referenced, Applicant will assume that paragraph 19 refers to former claim 50 because claim 50 has a clause g which is discussed by the OA while claim 36 does not, and paragraph 19 includes the sentence "The limitations of claim 36 are met for the same reason", which indicates that former claim 36 is not the primary focus of the analysis. Since both of the claims have been subsumed under new claim 56, the discussion should not be affected greatly if the assumption is incorrect. Applicant will further attempt to answer in terms of obviousness under section 103 and not anticipation under section 102, though the rejection is couched in terms of anticipation and not obviousness, to the extent obviousness was intended as the basis of the rejection. If section 102 anticipation was intended as the basis of rejection, and only to that extent, Applicant respectfully incorporates the comments raised with regard to section 102 by reference, which has been dealt with earlier in this response.

First, Kocher addresses a different problem from this invention. As the claims in Kocher clearly state in the preambles to them, they deal with the problem of archived telecopier transmissions and devices related to them. See Kocher claims no. 1, 29, 39, and 44. This invention addresses

a problem of signing and verifying electronic data by diverse users without a need for a client side system of digital certificates of a PKI, or the costs and administration required to establish and maintain a PKI, including problems of cross-certification between certification authorities, which is a complex and expensive technical and legal undertaking. As the Declaration of June 12, 2001 under Rule 132 established, the view was considered heretical at the time of the filing, but has since begun to gain acceptance, including action by others to create similar solutions. The invention reaches novel, unexpected, superior and surprising results in a way that was considered unworkable by the prior art in the field of the problem it addresses. Kocher addresses a different problem, and therefore is not suggestive of this invention.

Kocher's invention authenticates transmission of facsimile documents to an archival facility by signing a **timestamp** of when they are received, and providing verifications of timestamps. See e.g., Col. 7, lines 45-50 (Digital data are cryptographically timestamped); Col. 10, lines 35-40 (The digital **timestamp** stored with the data is cryptographically verified). The purposes of Kocher's use of an encryption algorithm is entirely different from this invention. Kocher signs a record of the time a facsimile document is received by an archive as later proof it was transmitted and received at the timestamp date and time and of how it is currently stored in the archive. Kocher states that only an avowal of the archive that the document has not been altered since it was received exists as proof of non-alteration. No cryptography is employed for this latter purpose. Col. 8, lines 37-43; Col. 11, lines 13-18. No attempt is made by Kocher to identify or report an individual as the author of the contents of the archived facsimile transmission, unlike the signers of this invention. In this invention, an electronic document is signed electronically which cryptographically identifies an authenticated signer and detects if changes have been made to the document in the interim. Kocher does not suggest this invention by using cryptography for different, timestamping purposes.

Kocher does not teach this invention because nothing like the signature of this invention is contemplated. Kocher states (Col. 11, lines 15-20) that the archival facility of his invention, unlike the server computer of this invention, gives no assurance to the world that a transmitted document was not forged or tampered with.

Kocher does not authenticate users for the same purpose as this invention. This invention authenticates users when it is necessary to be able to verify later whether a signature belongs to that user. Kocher authenticates users for purposes of sending a receipt back to them and for billing purposes (Col. 7, lines 20-25.)

Therefore, former claim 50, now subsumed as part of new claim 76, of this invention is novel over Kocher and other prior art, and by the same line of reasoning, so are the other claims rejected under section 103 by the OA in paragraph 19, being former claims 36, 39, 50, 51, 52, 53, 54 now respectively claims 56 (which includes both former claims 36 and 50), 63 (which replaces both former claims 39 and 53), 66, and 67, as well as former claims 40, 41, 43, 45, 47 and 49, which are replaced by new claims 70, 71, 72, 73(which combines former 45 and 49), and 69.

With regard to the specific references, including specific claim references of paragraph 19, the following is respectfully submitted:

1. Templates are not a feature that could be reasonably integrated into Kocher as described in the patent. Kocher involves facsimile transmissions. Telecopier is defined in the specification as images (col. 5, lines 6-8). Images are not susceptible to accommodating fill in forms, which require text- not image- based digital files that can accept data entry and placing of text fields into specific locations within a document template. Conversion of data from non-digital to digital form is also contemplated by the specification. Figure 2, Element 220. Where received data is not in digital form, the problem of creating fields to fill in text becomes even more problematic. The technology of Kocher does not support templates at all because they address a different problem that is not involved with the art of facsimile archiving and timestamping.
2. Former claim 51, now claim 65 is not anticipated by Kocher because Kocher's facsimile transmissions, as stated above, do not support text-based digital technologies. Formatting tags cannot be readily applied to image files for the purpose of formatting text-based inputs from users. Kocher does not contemplate or accommodate the learning of former Claim 51, now Claim 65.

3. Former claim 52, now claim 66 is not anticipated by Kocher. It is also not clearly understood by the OA. The OA talks in terms of legal disclaimers, which could be one form of graphical and text information contained in a template at the server, but the gist of Claim 66 is an understanding reached as to the agreement of the user to terms and graphics contained in a document template that the user signs. Kocher does not address the problem of agreements between signers and relying parties based upon terms and conditions signed by the signers. Kocher deals with archiving and timestamping facsimile transmissions, which may be signed, unsigned, agreed to, contested between parties, or none of the foregoing. The two inventions address different problems. Kocher does not anticipate this invention.
4. The rejections contained on page 8, top, are based upon the statement that "the additional elements are old and well known, and it would have been obvious to implement them in Kocher's system." Again, the teaching of in **In re Wright**, 848 F.2d 1216, 6 USPQ 2d 1959 (Fed. Cir 1988) ¶¶ 39-44, *supra*, is determinative:

Applicant Wright agrees that he has combined old elements. The Commissioner agrees that Wright has achieved a new combination, and that the result obtained thereby is not suggested in the references. The patentability of such combinations is of ancient authority. See, e.g., *Prouty v. Draper*, 41 U.S. (16 Pet.) 336, 341, 10 L. Ed. 985 (1842); *Eames v. Godfrey*, 68 U.S. (1 Wall.) 78, 79-80, 17 L. Ed. 547 (1863); *Gill v. Wells*, 89 U.S. (22 Wall.) 1, 25, 22 L. Ed. 699 (1874); see also H.T. Markey, *Why Not the Statute ?*, 65 J. Pat. Off. Soc'y 331, 333-34 (1983) ("virtually all inventions are 'combinations', and . . . every invention is formed of 'old elements'... . Only God works from nothing. Man must work with old elements").

It would not, on the basis of Kocher, "have been obvious to one of ordinary skill in the art attempting to solve the problem upon which the inventor [e.g., the Applicant herein] was working." *In re Wright*, *supra*. (Bracketed material added.) They are different inventions directed to different problems.

The applicant respectfully traverses the assertion of official notice in paragraph 19 and requests a reference or affidavit of the examiner.

For the stated reasons, Applicant respectfully requests reconsideration of this rejection and allowance of the claims.

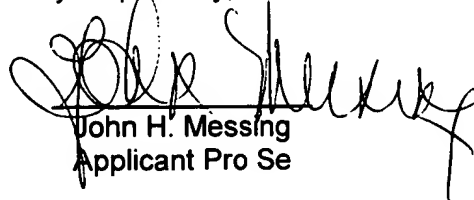
Conclusion

For all of the above reasons, applicant submits that the specification and claims are now in proper form, and that the claims all define patentability over the prior art. Therefore, applicant submits that this application is now in condition for allowance, which action is respectfully solicited.

Conditional Request for Constructive Assistance

Applicant has requested amendment of the specification and claims of this application so that they are proper, definite and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. Sections 706.03(d) and 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings. Alternatively, if the examiner agrees that patentable subject matter is presented but does not feel that the present claims are technically adequate, applicant respectfully requests the examiner to write acceptable claims pursuant to MPEP 707.07(j).

Very respectfully,



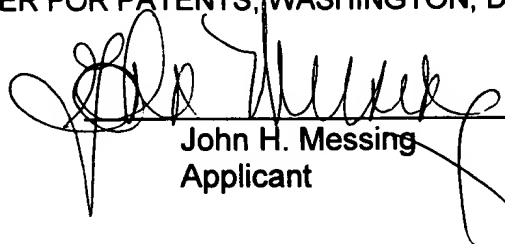
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Certificate of mailing: I certify that on the date below this document and referenced documents and attachments will be deposited with the U.S. Postal Service as first class mail in an envelope addressed to: "BOX AF, ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231."

December 26, 2001



John H. Messing
Applicant